imaging using near-or-far infrared illumination. As a result of this broad-bandwidth behavior, such cameras are useful to produce monochrome video.

**(3.) Please amend page 3, lines 9-17 as follows:**

Another approach used in the prior art is the use of movable mirrors in the optical path. In this approach, a pair of mechanically linked mirrors is used to selectively pass the optical flux through one path, which includes an intensifier, or through a second path, which does not have in intensifier. While this approach has merit in its elimination of a redundant lens, it is not without drawbacks. One deficiency is in the difficulty of establishing precise physical positioning of the mirrors after they have been moved. This may be a serious deficiency if the system is used as a weapon sight. Another deficiency of a moving-mirror system is the mere presence of moving parts, which inevitably reduces the ruggedness and reliability of the system.

A3

**(4.) Please amend page 7, lines 7-12 as follows:**

Fig. 4 depicts the basic system of Fig. 2, as supplemented by the inclusion of an image intensifier 24. Since the image on the rear surface of the image intensifier is a simple planar image, a relay lens system 26 may be necessary to transfer the image from the rear surface of the intensifier 24 to the monochrome sensor 16. Other techniques may also be employed to transfer the image, such as the fusion of fiber optic bundles between the intensifier and imager, or direct bonding of the intensifier to the imager.

A4

**(5.) Please amend page 7, lines 21-27 as follows:**

Fig. 6 depicts a multiple-imager version of the system. Multiple digital imagers 100, 102, and 104, share a common address bus 108 and data bus 106. A camera selection signal 110 is applied to multiplexer 112, which thereupon selects one of the sensors via enable lines 114, 116, and 118. This method allows the selection of a desired camera. The individual cameras 100, 102, and 104 may share a common optical path, as in previous examples which use a two-way beamsplitting mirror. The individual cameras 100, 102, and 104 may be separately optimized for different purposes, such as day vs. night, 1X zoom vs. 2X zoom, etc.

A5

**(6.) Please amend page 7 lines 28-34 and page 8, lines 1-9 as follows:**

Fig. 7 depicts an enhancement to the basic system of Fig. 2, wherein the analog sensors are replaced with high-resolution digital sensors 14 (color) and 16 (monochrome). As before, a lens system 10 directs a desired scene towards the beamsplitter 12, thence towards the dual image sensors 14 and 16. Images captured by these digital sensors are transferred to a suitable signal processor 30

with associated program/data memory 32. The processor 30, among other tasks, controls the scanning of the selected image sensor 14 or 16, and produces a corresponding output signal 22 in a desired signal format, such as NTSC, PAL, or a digital format such as D-1. A pair of orthogonal gyroscopic accelerometers 34 and 36 are disposed in a plane parallel to the image plane of the monochrome sensor 16. Angular accelerations detected by sensors 34 and 36 are twice-integrated by processor 30, to derive a knowledge of the instantaneous angular position of the device. This information is then used to temporally offset the image sensor scanning signals produced by the processor 30, effectively stabilizing the image position. Alternatively, the instantaneous position information previously described may be used to variably offset the read addresses driven to the imager or its buffer, again effectively stabilizing the image. A variety of user input pushbuttons 38 are provided to allow user control of various camera parameters, for instance brightness, stabilization on/off, day/night mode, power on/off, etc.

A5 cont.

**(7.) Please amend page 8, lines 14-22 as follows:**

An additional benefit of the dual-digital-sensor system of Fig. 7 is the ability to 'fuse' the two images. The monochrome sensor 16 is used to provide scene luminance information, while the color sensor 14 is used to provide chrominance information. Note that, since luminance information is provided by sensor 16, it is possible to use non-traditional color filters on color sensor 14 to increase its resolution and sensitivity. For example, a simple CrCb filter could be used on color sensor 14, with no pixels wasted for detecting luminance. The processor 30 may be used to scale and merge the two information streams into one signal. This method is not possible in prior-art systems, which used movable mirrors.

A6

**<u>In the Claims:</u>**

**Please amend Claim 2 as follows:**

N.E. Rule 1.121

2. The camera of claim 1, further comprising an image intensifier associated with one of the sensors for intensifying the image under low ambient lighting conditions.

**Please amend claim 17 as follows:**

N.E. Rule 1.121

17. The camera of claim 1, wherein the single primary lens system comprises a plurality of lens components movable relative to one another to permit zoom capability.



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